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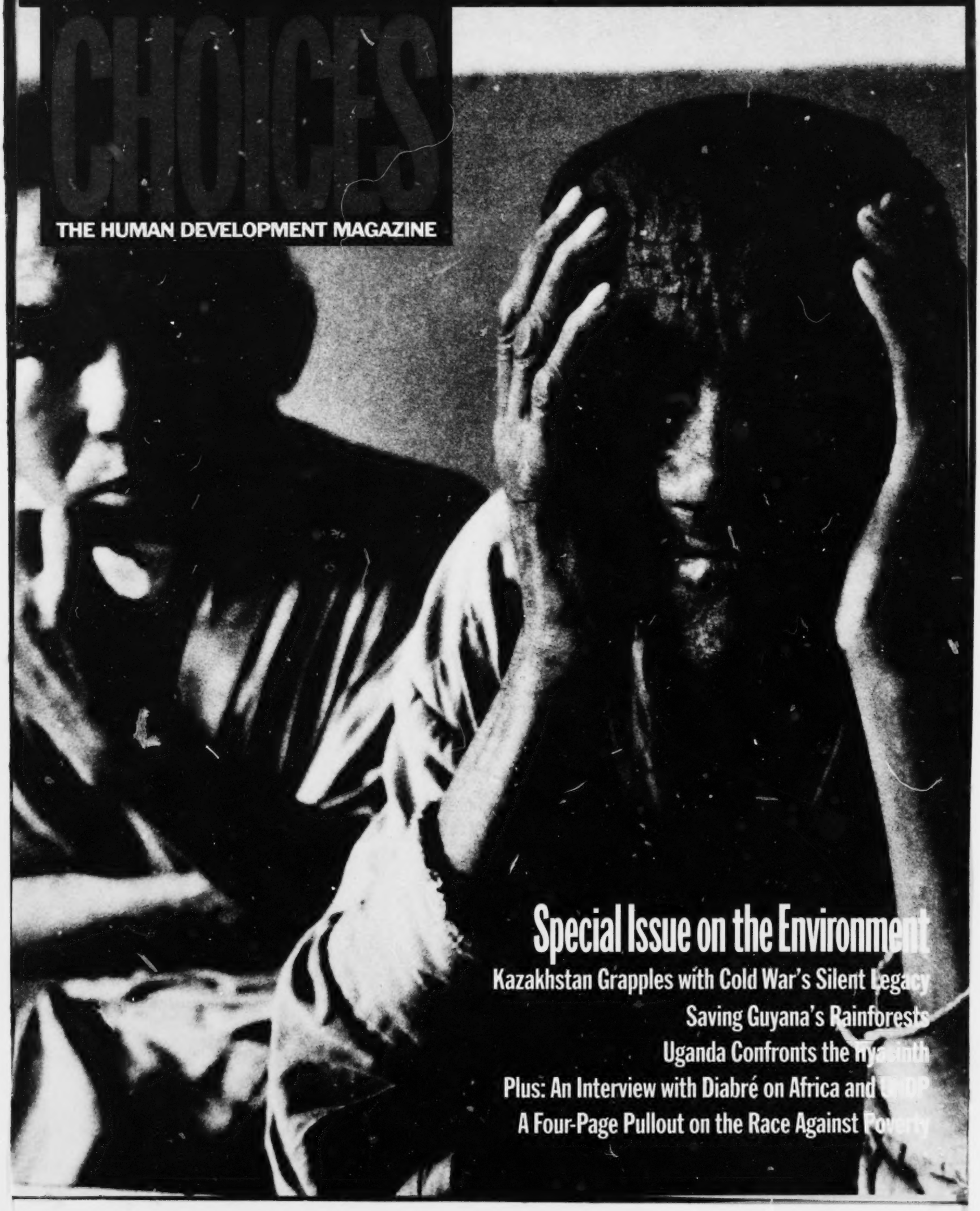
CHOICES

THE HUMAN DEVELOPMENT MAGAZINE



Special Issue on the Environment

Kazakhstan Grapples with Cold War's Silent Legacy

Saving Guyana's Rainforests

Uganda Confronts the Hyacinth

Plus: An Interview with Diabré on Africa and UNDP

A Four-Page Pullout on the Race Against Poverty

FROM THE EDITOR IN CHIEF

During a recent trip to Bangladesh, I met a woman named Razia Begum, who proudly showed me her vegetable nursery where she grows spinach, cauliflower, cabbage and eggplant. Not only does the garden produce food for her family, it also earns her a living through the sale of vegetables and seedlings. It all began with a US$65 loan from a UNDP-supported credit programme that enabled her to buy her own piece of land without putting up any collateral. What happened to Razia is just one illustration of the positive results from development programmes in Bangladesh and elsewhere.

But today, development programmes—including those supported by UNDP—are at risk, mainly because of the continuing decline in official development assistance. In response to this, along with the decline in UNDP core resources over the past few years, our Executive Board approved two landmark decisions—98/23 and 99/1 — outlining a new funding strategy for the organization. Together, these decisions provide UNDP with a new opportunity to rebuild the financial base of the organization.

Central to the new funding strategy is a commitment by UNDP to put in place a new multi-year funding framework that integrates programme goals, resources, budgets and outcomes with the objective of increasing our core resources. This means that future funding for the organization will depend in part on how well we can demonstrate clear objectives and outcomes in our work.

According to Zéphirin Diabré, UNDP's new Associate Administrator, "You may be doing something well, but if it's not perceived that way, no one is going to support you." Diabré was speaking to UNDP public affairs officers from 17 Arab countries who were participating in a training workshop hosted by our Arab States Bureau and our Division of Public Affairs in Marrakech in March.

"We are moving toward a system of management that puts more emphasis on results," Diabré said.

But as Diabré suggested, good deeds—or results—alone will not automatically translate into financial support from donors. The results need to be clearly and convincingly communicated to the public, the media, policymakers and non-governmental organizations.

The Division of Public Affairs has hosted many training programmes for our public affairs officers around the world. But the one that took place in Marrakech and a similar one in Cotonou a month earlier for public affairs officers in Africa were the first workshops linked directly to UNDP's new funding strategy and a results-based approach to development.

"A public affairs officer is no longer just someone carrying information," said Diabré. "You are now the people who have to tell governments about UNDP's new products, to let everyone know that there have been results."

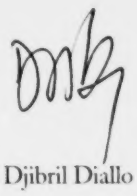
So how does an organization like UNDP draw public attention to the significant strides that communities all over the world have made with our help?

This is a tremendous challenge, and UNDP is rising to the occasion. We are making every effort to highlight stories of poverty eradication, environmental protection, women's advancement, jobs, better governance and peace building through development. We also organize fact-finding missions for journalists to enable them to see the impact of our work in every region.

Actor Danny Glover, Nobel Laureate Nadine Gordimer, filmstars Misako Konno and Hussein Fahmy are UNDP's Goodwill Ambassadors, who have taken up the cause of raising public awareness about global poverty and are helping UNDP show the world that development assistance is a good investment. And earlier this year, US basketball star Dikembe Mutombo joined us as our new Youth Emissary, teaching young people everywhere about the importance of tackling poverty.

Another Nobel Laureate, Amartya Sen, has become our new Distinguished Advisor on Human Development. Author of more than 15 books on economics and development, Sen is helping the world understand the many benefits of providing the poor with opportunities for a better life.

The international community has to know how its money is being spent and that it reaches those in need. UNDP's work has helped millions of people gain access to safe drinking water, earn a basic living and participate in the decisions that affect their lives. We hope our results-based approach will convince the international community of the need for stronger support for development.



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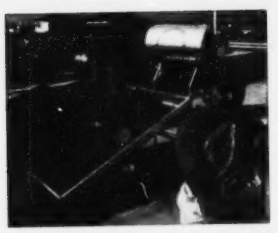

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COMMENTARY

JAMES GUSTAVE SPETH

POVERTY AND THE ENVIRONMENT: MOVING THE AGENDA

In 1992, at the United Nations Conference on Environment and Development held at Rio de Janeiro, world leaders endorsed a global plan of action known as Agenda 21—a remarkable blueprint for sustainable development. Where are we today, nearly seven years after this milestone event? Are there tangible signs indicating that the messages from Rio have been translated into real action and progress?

Let us be frank with ourselves. Since Rio, there have been real gains, but the international community has also failed in many of its commitments. Progress in the implementation of Agenda 21 has not been as rapid, or as far-reaching, as we had all hoped, in part because the promised increase in assistance to the poorer countries has never materialized. International action has succeeded in limiting the growth rate of ozone-destroying chemicals, but there has been little progress on global warming. Deforestation continues to pose a threat to biodiversity and to livelihoods. According to the *World Resources Report (1998-1999)*, the quality of the global environment has declined across a broad front.

At Rio, it was clear there were numerous obstacles to sustainability: limited understanding of how to integrate environmental and economic objectives, lack of capacity and political will to carry forward action where understanding does exist, and conditions of abject poverty in many regions of the world. Our focus at UNDP since Rio has therefore been to assist countries integrate their sustainable development goals in their poverty eradication strategies.

UNDP and our development partners in the countries we assist recognize that Agenda 21 should be a tool to help reverse both poverty and environmental destruction. In almost every developing country, UNDP is supporting governments, non-governmental organizations and communities as they translate the messages and commitments of Agenda 21 into sustainable national action programmes. In Malawi, the Gambia, Mozambique, Nepal and Costa Rica, for example, we have helped governments implement national environment plans as part of their development strategies. About 25 percent of UNDP's resources are now devoted to the environmental aspect of development.

Providing access to modern energy services is essential to any effective poverty eradication programme. Today, two billion people cook with traditional fuels, and more than 1.5 billion lack access to electricity. Millions of women and girls must spend hours each day searching for fuel wood for their households, taking away time that could be spent in school or earning money in jobs or small businesses. In China, Mongolia and many other countries, we have helped develop sustainable energy futures by emphasizing more efficient use of energy and increased utilization of renewable energy sources.

UNDP is pilot-testing projects around the world in food security, sustainable forest management, water resources management and sustainable natural resource exploration. These efforts have given people the opportunity to look beyond their immediate needs and to consider the prospects of their children and grandchildren.

Let us be frank with ourselves. Since Rio, there have been real gains, but the international community has also failed in many of its commitments.

Our work in building capacities to implement Agenda 21 has taught us important lessons. To be successful, capacity development programmes must be based on real needs and local ownership. Policies and efforts driven by global concerns alone are not sustainable. International agreements impose a long series of difficult planning requirements on developing countries. Rationalization and joint, coordinated support for country-owned and country-driven strategies are in order.

Another key problem is that governments, both North and South, are subsidizing the misuse or overuse of natural resources. These subsidies are not sound or justifiable either economically or environmentally. In a world of neo-classical economics, we should follow the first rule: get the prices right.

The continuing deterioration of the environment and the expanding need to address environmental issues on an international basis also underscore the important contributions that can be made by UNDP's sister agency, the United Nations Environment Programme (UNEP). UNEP is essential in developing and monitoring international environmental agreements and promoting international environmental protection and cooperation.

At the international level, UNEP can work with the World Trade Organization and other new entities and can facilitate the work of national environment authorities at the regional and global levels. A strengthened UNEP, focused on information and statistics, global environmental monitoring, forecasting and early warning, normative and policy leadership, regional and global environmental agreements, and secretariat services for environmental agreements and meetings, is now essential. With a strengthened UNEP, and a strengthened UNDP providing capacity-building assistance for sustainable development at the country and community levels, we will have a United Nations family better able to support the world community in making the vision of Agenda 21 a reality. ■

James Gustave Speth is Administrator of the United Nations Development Programme.

SAVING A "LAST REFUGE"

By Phil Gunson

Iwokrama, Guyana—Perched on the north-east shoulder of South America, the former British colony of Guyana is one of the poorest and least populous countries in the entire region, as well as one of the most heavily indebted.

Ninety percent of the population of about 800,000 lives on or near the Caribbean coast, while the heavily forested interior is home to as many as 50,000 Amerindians from nine ethnic groups. Though under increasing threat from foreign logging concerns, this still largely pristine wilderness represents a unique resource—and an opportunity for Guyana and the world.

I was among a group of journalists who set off into the Guyanese interior to see what the government was doing to preserve its forests.

Our destination was the Iwokrama field station where an audacious experiment is under way.

The data gathered by scientists working out of this modest collection of palm-thatched huts on the banks of the Essequibo, in what the Guyanese call "the bush," is intended to satisfy more than simple scientific curiosity. The intention is to produce a plan that will save at least part of the forest (with its dazzling variety of flora and fauna) from the destructive logging, the miners and the traders in exotic species. The principle behind the programme is that to sustain forests they should be utilized for local benefits where they have sustainable productive benefits.

That is why in order to preserve this priceless ecosystem—and thus provide a model for sustainable forest management—its custodians will probably have to allow part of it to be selectively logged; a prospect that may cause some to object.

The Iwokrama project began in 1989 with an unprecedented offer by Guyana's then-president, Desmond Hoyte, to set aside (in the interests of the world) a million acres of rainforest, partly for conservation and partly for research in sustainable development. "Small countries," he said, "shouldn't just sit back with their arms folded and wait for regional or international initiatives."

The international community took a while to recover from its astonishment. According to Lance Carberry, an aide to Hoyte, who takes credit for keeping the project going in the face of initial skepticism, people reacted to the idea like a pedestrian reacts to a wallet lying on the pavement.

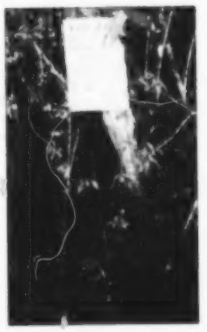
"It was really equivalent to that kind of questioning," he says. "When are you guys going to pull the string on the wallet?"

But many Guyanese were also suspicious, says the present government's science adviser, Navin Chandarpal. People were afraid "that we were giving away part of our territory, that we were creating a state within a state."

Almost entirely surrounded by rivers, the vast tract of dense jungle known as Iwokrama (after a local mountain range) harbours a huge variety of plant and animal species, including some of the most endangered fauna on the planet.

Jaguars abound, and the canopy is alive with toucans, macaws and parrots. About 450 bird species have been identified here. The rivers contain giant otter, black caiman—a species of alligator eradicated by hunters from much of the Amazon—and one of the world's largest freshwater fish, the endangered arapaima.

Appropriately, one of the meanings of Iwokrama in the local indigenous language is "place of refuge."



Research outpost leads Guyana's experiment to save tropical forests.

The project started in 1993, with the help of a US$3 million grant from the Global Environment Facility (GEF), a fund co-managed by the United Nations Development Programme (UNDP), the World Bank and the United Nations Environment Programme.

Today, a new research centre is up and running and has completed many preliminary studies. The goal for the next phase of the project is to make it self-financing.

Organizers of the project hope that ecotourism, scientific grants, sustainable logging and "biodiversity prospecting"—harvesting valuable genetic material from the forest in partnership with commercial ventures—will raise enough money to keep the effort moving forward in the years ahead.

But what of the Amerindians, the original inhabitants of the forest?

"There was a very legitimate concern that we felt from the Amerindian peoples," said Carlos Felipe Martinez, UNDP's resident representative in Guyana. They wanted to know, "What is in Iwokrama for us?"

"Small countries shouldn't just sit back ... and wait for international initiatives."

There are more than a dozen Amerindian settlements in the vicinity of Iwokrama, with a total of 3,000 inhabitants. One village (Fairview) is actually within the reserve, just a couple of kilometres upstream from the field station.

Andrea Tamagnini, UNDP's deputy resident representative, pointed out that in its early stages the GEF project was not geared to provide much assistance to the population that lived around the Iwokrama project and this soon became a concern of UNDP.

Suspicions arose among some Amerindians that they would be excluded from Iwokrama and that their traditional hunting, fishing and other subsistence activities would be curtailed.

"There were a lot of questions being asked by us," said Roy Marslow, Fairview's village leader. "Why are they really here?"

Villagers were reassured to learn that while commercial hunting was to be outlawed within the reserve, Amerindian communities would still be able to hunt for their own uses.

Goodwill has been fostered in large part by the field station's outreach projects, including workshops on wildlife management, and the fact that the communities themselves are involved directly in environmental protection.

Some of the environmental changes that had already begun to affect the area caused us Amerindians, hardship, Roy Marslow said. "We were eating and selling for years and years, without even thinking that catching female fish could affect the population."

One possibility being discussed for the sustainable exploitation of the forest's resources and to help those who have fallen onto hard times is to farm the giant arapaima, which is capable of putting on weight at an extraordinary four kilogrammes a year.

A substantial market for arapaima exists in neighbouring Brazil, where the fish has been over-exploited and is now a rare catch in their rivers.

Schemes to harvest genetic material from the forest, for the development of medicines for example, are now required to safeguard the "intellectual property rights" of the indigenous peoples.

At a relatively early stage in their research it became apparent to Iwokrama planners that an approach focused purely on the forest would not work. Only an "integrated" development plan would allow local people to feel they had a stake in the project.

This resulted in a UNDP-supported poverty-eradication programme for the

North Rupununi district in which the reserve is located. Carried out in partnership with the government's North Rupununi Development Board, a local community-based organization set up to liaise with Iwokrama, the programme provides technical assistance for small-scale job-creation schemes and also supports income-generating activities, credit for the poor and education and health services. The programme also aids other initiatives identified by the communities themselves. Sidney Allicock a community leader from the Amerindian village of Surama on the nearby savannah, spoke of the need for such projects to discourage young people from migrating to cities.

"What are we educating them for?" he said. "There is nothing to occupy their minds here, so they go off to Georgetown, to the mines, to Brazil."

Behind him, young men were planing wood to make furniture for a new "eco-lodge" in the village.

"Before," he said, "if a set of white hunters came out here we would just go with them and kill everything. We had the sense that the forest was so huge there was no problem killing 20 or 30 of anything. Now we have been sensitised."

Not everyone is so environmentally aware, however. With such a small population in a country nearly the size of Britain, Guyana is still 75 percent forested. And as one of the world's most heavily-indebted poor countries, it has a strong incentive for exploiting one of its major natural resources.

Back in 1992, the government had granted a 50-year logging lease to a major Asian timber company. The lease applied to four million acres of forests.

The executive director of the firm insists his company has been engaged in sustainable logging and has been meeting environmental standards.

Government forestry commissioner Clayton Hall, says the company has been cooperative in ensuring that any lapses are corrected.

Meanwhile, the government has imposed a three-year moratorium on further logging concessions while it develops the know-how and infrastructure to ensure sustainability.

Half a dozen timber companies are knocking at the door, and a new type of permit called an "exploratory lease" is seen by some experts as a disguised concession.

Meanwhile, the whole notion of "sustainable forest management," is seen by some environmentalists as a fraud, and the Iwokrama project looks certain to arouse their ire.

"Millions of dollars have already been spent on schemes to promote sustainable forest management, with precious little to show for our efforts," according to the authors of a recent article in the influential magazine *Science.*

Supporting the World Bank's ban on funding for commercial logging in tropical forests, the authors maintain that, "as a tool to further the conservation of tropical forests, increased funding for commercial logging is simply not a good idea."

David Cassells, director of the Iwokrama programme admits that less than one percent of tropical forests are sustainably managed. But he argues against a strategy based purely on conservation, saying this leads to "islands of protection in a sea of degradation."

He points to the example of Costa Rica, which is widely praised for its conservation efforts. There 20 percent of the original forest is in areas declared as national parks. Outside of this, however, there is almost nothing left intact.

Time is running out. Every year, nearly 16 million hectares of forest are lost worldwide. The results from the "living laboratory" of Iwokrama may be crucial in the race to save the remainder.

It is not as if we have not been warned.

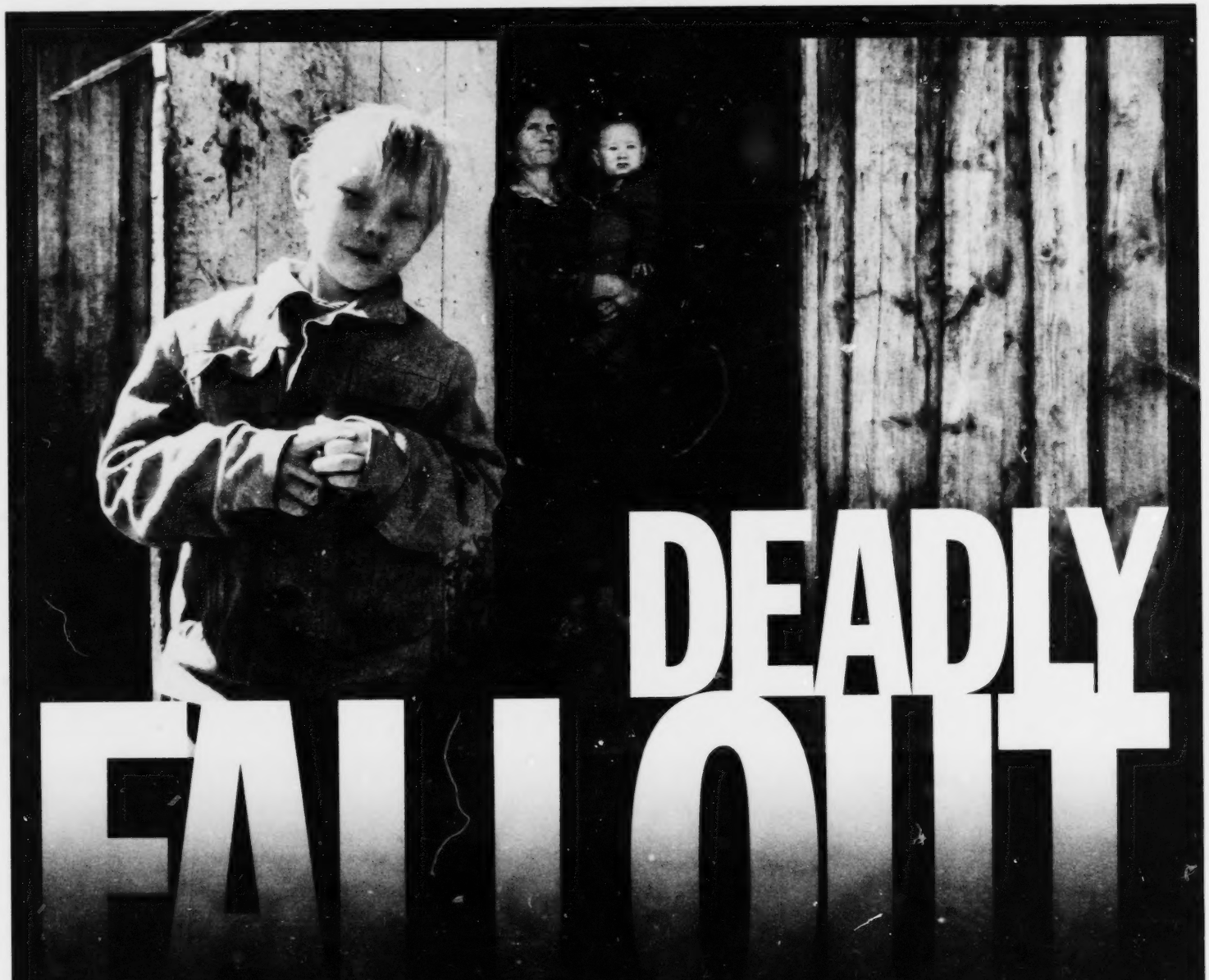
Amerindians discuss ways to preserve forests and still benefit from them.

Indigenous peoples throughout the world have always understood the importance of the natural world to the survival of our own species.

"The roof of the world is held up by the trees," says an old Amerindian legend. "If the forest disappears, nature and man will perish together." ■

Phil Gunson has been writing and broadcasting on Latin America for the past 20 years. From 1996 to 1998 he was the Latin America correspondent for the Guardian *newspaper of London. He lives in Mexico City.*

Local people get jobs in lumber mills that process selectively harvested trees.



DEADLY FALLOUT

KAZAKHSTAN GRAPPLES WITH COLD WAR'S SILENT LEGACY

By Sam Shinn

Sarjal—In this isolated corner of northern Kazakhstan, the village of Sarjal offers grim testimonial to a lingering nightmare from the Cold War era. Beyond the low concrete walls of its plain brick houses lies a bleak and barren landscape with few trees and little vegetation. Herders grazed their cattle here while Soviet scientists conducted nuclear tests just 30 kilometres away. They cowered in fear when the sky lit up and the ground shook, but they never suspected.

Bikesh Ualieva, was born in Sarjal and she tends house and cares for her family in much the same way as her ethnic Kazak ancestors did a century ago. Now in her late forties, she works in the village school and helps her husband tend cattle after work. It would seem a normal life but Bikesh suffers from "asymmetrical facial distortion," a condition that contorts her face into an uneven profile. She also has a congenital disease—oligophrenia as well as anemia, low blood pressure and arthritis.

"It is very unusual for patients with oligophrenia to have all these other diseases," says Ayar Imangalieva, the village doctor. "It is not normal for one patient to have so many illnesses at one time. But for villagers here in Sarjal, it has become normal. Almost every person who lives here has more than one illness."

Until recently, Bikesh and thousands of others in the Semipalatinsk region where Sarjal is located, were at a loss to explain their illnesses. In this village of 2,600 inhabitants, many are similarly disfigured. Some suffer from cancer and there is an epidemic of other serious illnesses. Young couples are fearful of having children because of the rising incidence of still births and deformities. The psychological toll on the community has been overwhelming, marked by an epidemic of suicides among men in their early twenties.

It was not until December of last year that the veil of mystery that had been drawn around the vast perimeter of

Most people near the test site have been affected by radiation.

Semipalatinsk was raised. It became public knowledge that communities spread across 18,000 square kilometres had been exposed to fallout from 470 nuclear tests conducted by the former Soviet Union over a period of 40 years.

The total destructive power of these explosions between 1949 and 1991 was equivalent to 2,600 Hiroshima bombs. Winds carried the fallout and contaminated an area of 300,000 square kilometres, inhabited by some two million people.

Most of the testing took place less than 30 kilometres from Sarjal and on many occasions the radiation levels were up to 100 times higher than normal. Villagers in Sarjal remember how scared they were when testing took place, even though they had no explanation for it. "We were shepherds and the soldiers told us to leave the village immediately," recalls Bastamiev Sailauken who is 61 and has advanced systemic cancer. "But we had a lot of livestock and we moved slowly, day and night for three days. We were curious about the bomb testing and we looked in that direction. First it was like a big smoky balloon, then it grew into a star and it was bright red like the sunset. Then it exploded. Everything was shaking, there was a lot of noise. Now in Sarjal, many people die. All my friends have died. I am left alone."

During the Soviet era, doctors were quick to dismiss the inexplicable illnesses that followed the tests. Diagnoses never implicated the earth-trembling explosions of the nearby site. Although doctors did not have access to information, they felt obliged to explain why so many people in the region were dying of thoracic cancer. Legends evolved blaming the illnesses on the Kazak tradition of drinking scalding tea.

In December 1997, the United Nations General Assembly passed a resolution to study the "humanitarian situation in the Semipalatinsk region in order to assist the Government of Kazakhstan." Because Soviet authorities had not monitored the effect of weapons tests on populations near the site, the extent of the region's tragedy was unknown and undocumented at that point. In response to the General Assembly's resolution, the Kazakhstan office of the United Nations Development Programme (UNDP) coordinated a scientific study to investigate and formulate a plan for action. In December 1998, the Secretary-General published the first comprehensive assessment of the region confirming the extent of the tragedy.

Herbert Behrstock, the Resident Representative for UNDP in Kazakhstan said the growing incidence of birth deformities and illnesses reflects the impact of radiation on human immune systems over a period of two generations.

Radiation contamination extended far beyond the borders of the test site. The UNDP-coordinated study reported that three provinces covering an area larger than many European countries were affected by the blasts. Bricks in Semipalatinsk City, 100 kilometres from the test site, have been found to contain dangerously high levels of radiation. The International Atomic Energy Agency recently warned that people who make daily visits to the most contaminated zones risk radiation exposure 10 times greater than the international safety limit.

Data collected by the regional government show that the incidence of endocrine cancer in communities like Sarjal, closest to the test site, is three times higher than in the rest of Kazakhstan. Birth defects increased from 81.0 in 1996 to 104.3 in 1998 for every 100,000 persons.

Victims of the fallout.

Given the subsistence level lifestyle of people in Bikesh's village this is not surprising. The test site was unfenced and villagers allowed their cattle and horses to graze freely, unaware that the pasture was contaminated.

Today the nightmare continues. The Semipalatinsk children's hospital is filled with crying babies afflicted by once rare, but now increasingly familiar, illnesses. Hydrocephalus, a condition that enlarges the cranium of infants and destroys the brain, has become commonplace. Babies born blind or with fused spines are left at the door by their bewildered parents. Doctors do the best they can, but most of the patients will never leave the hospital.

Oncology wards confirm an increase in virtually all forms of cancer. Mindful of the fragile psyches of their patients, some doctors have taken to giving false prognoses to bolster the spirits of their critically ill patients. Doctor Vichbaev Burat who works at the Semipalatinsk Oncological Hospital says, "If you tell patients their true diagnosis, it shocks them and then they can't fight the disease, and they may even attempt suicide."

There has also been a recent surge in the number of people with mental illness, retardation and neurological disorders. Semipalatinsk's 12 psychiatric centers, each designed to house 150 children and adults, are now running at twice their capacity, leaving many more people in need of placement and specialized care. Dr. Irina Vernikova, medical director of one facility, says the government does its best but is unable to solve the problem. "We don't have enough medical supplies," she says. "Many of our patients have epileptic attacks, so they should be treated for psychiatric disease and physical disease. Sometimes we sacrifice to buy medication for only one disease."

Herbert Behrstock says the situation in Semipalatinsk has been compounded by economic difficulties brought on, ironically, by the demise of the nuclear testing programme. For decades, the test site was the main economic engine of the area. Just 20 kilometres from Sarjal, the city of Kurchatov was the headquarters of the Soviet nuclear weapons programme. Forty thousand troops and nuclear scientists were stationed there during the Cold War, but less than 8,000 remain today. The UNDP-coordinated study concluded that the ecological and economic effects of the tests have been as devastating as the medical ones.

Kazakhstan's Lake Balapan is one of many environmental calamities created by the testing. The lake, which is 400 metres wide and 800 metres deep, was formed in 1965 when water flowed into a crater left by a 130 kiloton nuclear explosion. Sergey Subbotin, who works for the Government of Kazakhstan, has been monitoring radiation levels in Semipalatinsk for years. "No one should go near the lake without supervision," he says. "The base radiation is 200 times higher than the national average."

Because of the scale and the complexity of Semipalatinsk's clean-up, Kazakhstan has sought help from the international community. Luke Kluchko of the US Department of Defense has been hired to supervise the sealing of numerous nuclear test "tunnels," which focused radiation from the explosions toward special instruments that measured its intensity. "We are sealing off nuclear test sites and the nuclear infrastructure that goes with it," Kluchko says.

UNDP's Behrstock says Kazakhstan's health experts and technicians are working together to fulfil the goals of the plan for action that emerged from the UNDP study. "But funds are limited," he warns. "Additional research is under way to target people most in need of assistance. We also need to assess who is at greatest risk and what are the additional environmental risks from the migration of plutonium if it gets into the air again and settles on other populations." Preliminary studies show that cesium, strontium and plutonium have penetrated much of the topsoil in the test area.

Kazakhstan's Minister of Health, Tolebai Rakhypbekov, equates the Semipalatinsk region with a war zone. "For 40 years there was a war on our territory but the people living there were not even aware of it and were not able to defend themselves." ■

Sam Shinn is a documentary film maker who recently completed a film on Semipalatinsk.

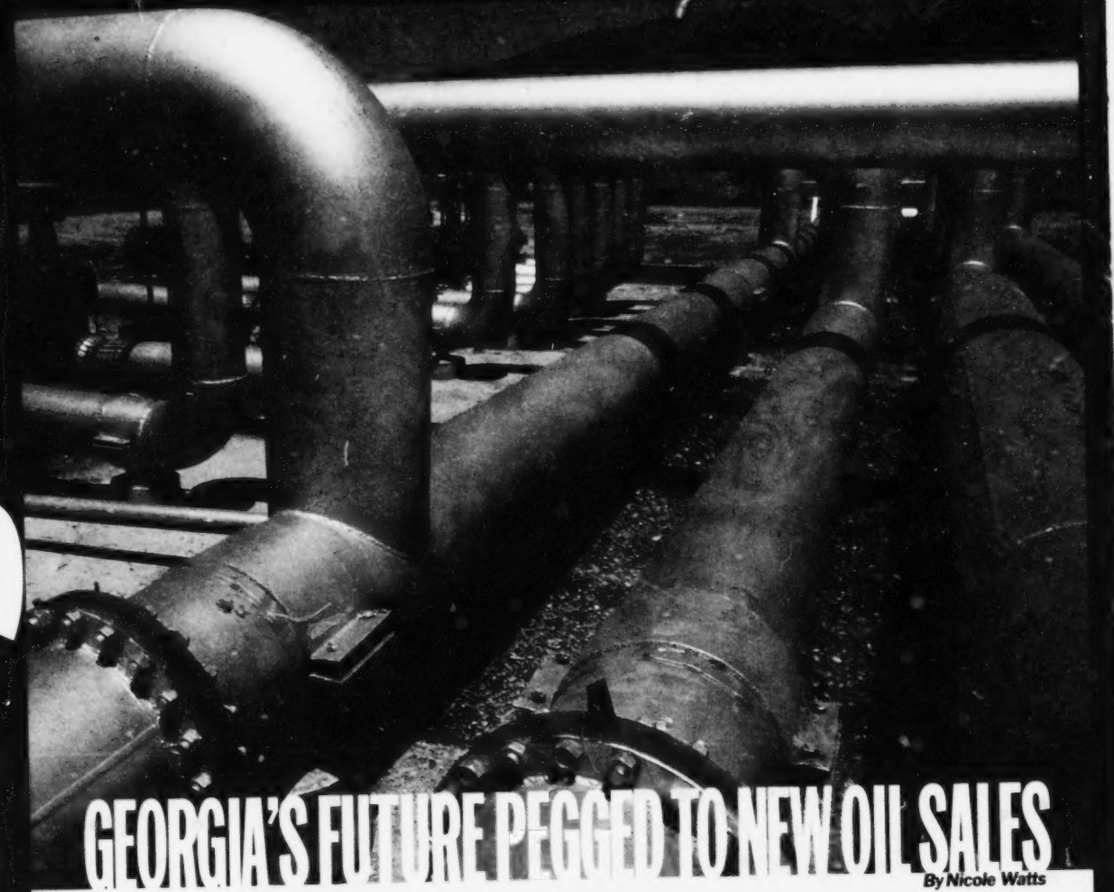
In December 1997, the United Nations General Assembly passed a resolution to study "the humanitarian situation in the Semipalatinsk region in order to assist the Government of Kazakhstan" to coordinate the ecological and economic rehabilitation of the former nuclear testing site near Semipalatinsk. Because Soviet authorities had not adequately monitored the effects of weapons tests on populations in and around the nuclear test site (named the "Polygon"), the extent of the problem was at that point unknown and undocumented. In response to the GA resolution, the UN office in Kazakhstan coordinated a landmark study in which more than 20 international experts worked closely with 50 national specialists to create an action plan for the region.

The mission teams conducted interviews with the local population and developed a priority programme to help alleviate suffering. Experts developed projects in five areas—health, humanitarian aid, ecology, economic rehabilitation and information dissemination—totalling over US$43 million.

The mission was also an exercise in inter-agency cooperation. Spearheaded by UNDP, the programme included the expertise and assistance of the International Atomic Energy Agency, the World Health Organization and the United Nations Children's Fund. Other agencies involved include the Office for the Coordination of Humanitarian Affairs, the United Nations Population Fund, the United Nations Educational, Scientific and Cultural Organization and the United Nations Industrial Development Organization. Experts from other international NGOs, such as Save the Children and the General Board of Global Ministries, also took part in the assessment.

A second GA resolution on the situation in Semipalatinsk was adopted last December. An international meeting on the situation in Semipalatinsk is scheduled to take place in Japan, in 1999.

Burning Brighter



GEORGIA'S FUTURE PEGGED TO NEW OIL SALES

By Nicole Watts

Tbilisi—Shifting into low gear and stepping firmly on the accelerator, burly Englishman David Beckett cajoled his Landrover up the steep dirt track hewn through thick groves of trees. From the top of the hill, he could survey the rolling hills of the Georgian countryside northeast of the capital Tbilisi. The hum of earth-moving activity below brought home the work closest to his heart: the laying of a ketchup-coloured pipeline to carry oil from the Azeri border through Georgia to the Black Sea port of Supsa.

Managed by the Georgian International Oil Corporation (GIOC), the 425-mile West Route Early Oil Pipeline project is a showcase for environmental awareness in post-Soviet Georgia, a country tucked between the eastern shore of the Black Sea and the southern base of the Caucasus Mountains.

Despite the global oil industry's frequent clashes with conservation groups, political and business leaders in Georgia are turning to oil as a key to finding a new way for managing the environment, as well as rekindling the economy and making up the national energy deficit.

The project is the first in Georgia to attract large capital investments—and the technical know-how and environmental standards that can accompany them. This year, the pipeline will begin transporting Caspian Sea oil to western markets, giving Georgia a new place on the map and a slice of the oil proceeds.

Aided by funding and expertise from the United Nations Development Programme (UNDP), the GIOC conducted Georgia's first-ever comprehensive "environmental impact assessment" before laying the pipeline, leading to changes in 40 percent of the design.

The pipes were sunk more than three feet into the earth where they are more secure from human and natural hazards. More than 200 Bronze- and Roman-age archaeological sites have been circumvented, and men laying the oil line tried to work within previously cleared dirt tracks so as to reduce the number of trees chopped down.

Environmental progress is being undermined by deep economic problems that have plagued Georgia since its independence in 1991, when civil war and an acute energy shortage led to the near-collapse of the country's public infrastructure.

▼ **Sisters whose homes were destroyed by war now share one room.**

▲ **Workers at a construction site along Georgia's oil pipeline.**

Today Georgia, once one of the wealthiest Soviet republics, is one of the three poorest. About 20 percent of the people are unemployed, and average household income in Tbilisi is only US$113 a month.

Despite new laws protecting forests, the environmental ministry's meager $2 million annual budget makes it difficult to find the resources to enforce them.

But environmental officials admit that new laws and even more funding will do little to protect Georgia's environmental future until a solution can be found to supply the country's basic fuel needs.

"The years between 1992 and 1994 were the most acute period of deforestation because the forests and trees were peoples' only means of survival," said Zurab Tavartkiladze, Georgia's deputy minister of environment.

Georgia's energy shortage stems from its former over-reliance on the Soviet energy grid. Ten years ago, the country imported nearly all its fuel and gas and one-quarter of its electricity from Russia and other Soviet republics. Fuel was also heavily subsidized.

When the communist empire collapsed, subsidies ended and imports ceased.

Annually, Georgia needs about 10 billion kilowatt hours of electricity, said Mikhail Menteshashvili, a Georgian deputy minister of energy. But the country has access to only seven billion, which translates into severe fuel shortages.

David and Tamara Kartsivadze still vividly remember the bitter Georgian winter of 1994, when Tbilisi families like theirs went for two months without any electricity. "We were angry, but we accepted it," said David, 32.

The Gardabani Hydro-Electric Station once provided as much as 70 percent of Georgia's power supplies, said David Charikadze, who oversees the facility's environmental affairs. Today, fire danger, fuel shortages, asbestos risk, rusted parts, collapsed beams, and hazardous emissions mean Gardabani is only switched on as a last resort, Charikadze said.

Ominously, this "last resort" included the winter of 1997, when fuel supplies grew so low that managers risked Gardabani's potentially lethal problems and put the aging facility into action.

The energy problem has led to a no-win situation. Foreign companies with cash that might buoy the economy are reluctant to invest in a country where energy shortages limit their operations, but the weak economy prevents the Georgian government from rehabilitating the power plants to attract foreign investors.

"Georgia is a very rich country in terms of energy resources—it should be able to produce 14 billion to 15 billion kilowatt hours," Menteshashvili said. "But because of the economic situation they are not being utilized."

Although Georgians still face winters with a sense of grim determination, economic and everyday life has improved substantially during the last few years. The introduction of the Lari to replace the old Georgian currency has helped bring inflation down to 6.7 percent, and the economy has grown as much as 12 percent for each of the last two years.

Today, the focus has shifted away from the stark demands of survival and towards the task of constructing a country that can offer its populace the prospect of a job and a stable political future.

UN agencies and non-governmental organizations are promoting democracy, social development as well as economic reconstruction. Georgian officials speak confidently of Georgia becoming part of Europe, of constructing a "Caucasus corridor" for oil, natural gas and other products.

At Gachiani, about 20 kilometres east of Tbilisi, another freshly scrubbed oil transportation project offers an example of the steps under way to create an environmentally and economically sustainable source of income.

In the Soviet era, pipes and holding tanks at the Gachiani Rail Tank Loading Facility leaked crude oil into the soil, which by 1996 was contaminated nearly two feet deep.

Although the transfer station is the only route by which valuable Georgian-produced crude oil can be shipped from the Samgori Oil Fields to the Black Sea and international markets, the state was forced to close it in the early 1990s after a number of fires.

Today, as a result of the $5 million UNDP-GIOC programme, the station is shipping an annual 150,000 tons of oil—an amount expected to increase to 400,000 tons by the year 2000. Workers have replaced leaking pipes and pumps, repaired tanks, and cleaned spills.

The transfer station brings GIOC, which took over ownership in 1996, a badly needed $1.5 million a year, and supplier Georgian Oil another $4 million a month.

"Many countries in the world are working very hard on the transportation of Central Asian oil through the western route through Georgia." Georgian President Eduard Shevardnadze said in an interview. "And although the direct revenues from the transportation of oil will not be that high, … the major benefit will be the accompanying infrastructure development and the creation of new ports and jobs." ■

Freelance journalist Nicole Watts has written on international and local affairs for the San Francisco Chronicle, *the* Montreal Gazette, *the* Oakland Tribune *and other publications.*

RACE AGAINST POVERTY

Millions of people around the world are trapped in poverty, and the obstacles to a better life often seem insurmountable. However, individuals everywhere are not only escaping the trap, but they are helping others to do the same. In Jordan, Miyasser Al-Saadi, 50, is a retired nurse, who runs a sewing cooperative in Amman that helps poor women earn a living. In Uganda, Edith Wakumire, 48, a former educator, orphaned at 12, provides support services for people with HIV/AIDS. In the Dominican Republic, Sonia Beltré, 28, helps her neighbours build sturdier homes against hurricane-force winds that frequently rip through the region. Fatima Bee, 33, protects the rights of women in Kalva, India. And in France, Nicole Rouvet, 40, helps homeless people get back on their feet and rebuild their lives.

What these five women have in common is the ability to persevere and inspire their friends and neighbours to do the same. Their personal triumphs and contributions to their communities were honoured by the United Nations Development Programme (UNDP) in October 1998, when each received the organization's annual Race Against Poverty award.

While assisting governments to formulate national development plans and policies to eradicate poverty, UNDP supports local enterprises and community initiatives that empower people to support themselves.

In Uganda, UNDP assists the work of the *Uganda Women Concern Ministry*, the community organization that UNDP awardee Edith Wakumire helped launch to assist people living with HIV/AIDS. Funds contributed by UNDP helped Miyasser Al-Saadi purchase sewing machines. In India, Fatima Bee's self-help group gets assistance through the UNDP-supported South Asian Poverty Alleviation

UNDP *Race Against Poverty* awardees (from left) Nicole Rouvet, Miyasser Al-Saadi, Fatima Bee, Sonia Beltré and Edith Wakumire.

Programme. And in the Dominican Republic, Sonia Beltré became one of the first participants in a low-cost, community housing programme funded by UNDP, the World Food Programme and the National Institute of Housing.

Timed to coincide with the International Day for the Eradication of Poverty (IDEP) on 17 October, the awards have become a highly publicized annual event honouring individuals for outstanding efforts to tackle poverty in their communities. United Nations Secretary-General Kofi Annan presents the awards each year at UN headquarters in New York.

UNDP/EKO

UNDP/GEORGIA

▲ Nane Annan (centre) at a breakfast she hosted for UNDP's *Race Against Poverty* awardees.
► In Georgia, the National Ballet performs to benefit orphans.
▼ UN Secretary-General Kofi Annan at the IDEP ceremony.

ROBERT MAAS/UNDP

Raising Awareness

UNDP also commemorates the day each year by organizing special events in the 174 countries and territories served by the organization. Events include art exhibits, school essay contests, special television programmes, soccer games and fundraisers for poverty alleviation projects.

In Lebanon, the government, with UNDP support, released the country's first nationwide assessment of the severity and extent of poverty. In Georgia, the National Ballet gave a benefit performance to raise funds for social programmes. Romania held a children's essay contest on the theme "understanding poverty."

Evolution of the Campaign

In 1992, the UN General Assembly proclaimed 17 October the International Day for the Eradication of Poverty to raise public awareness about the plight of the 1.3 billion people living in absolute poverty and to mobilize action against it. The General Assembly reinforced its commitment in

AMBASSADORS GIVE

"I want to highlight the stories of hope from around the world," actor and activist Danny Glover said as he explained to an audience in New York last year why he agreed to become the first Global Goodwill Ambassador of the United Nations Development Programme (UNDP).

Danny Glover

As Goodwill Ambassador, Glover has become an influential advocate for the world's three billion people living in poverty and an outspoken supporter of assistance to developing countries.

Since he accepted the job, Glover has travelled to Haiti, Mali, Namibia, Senegal and South Africa to see first hand how communities in developing countries are overcoming the obstacles to a better life and are lifting themselves out of poverty. He visited UNDP-supported programmes that enable women to build their own homes, give people new job skills, and provide small loans to help poor people set up their own businesses. In each country, he met with top government officials, including South Africa's President Nelson Mandela, to gain a better understanding of how UNDP and governments are working together on national poverty-eradication strategies.

Armed with new knowledge about the successes, setbacks, needs and aspirations of developing countries, Glover is helping UNDP communicate the importance of confronting global poverty.

Soon after Glover's appointment, UNDP also named 1991 Nobel Laureate for Literature Nadine Gordimer a Global Goodwill Ambassador. Gordimer carries out her mission in many ways. Since her appointment, she has written several articles and editorials about the plight of the poor for major national and international newspapers. She has also led "town hall meetings" on the subject and delivered speeches at international conferences including the Davos World Economic Forum.

Nadine Gordimer

UNDP's third Global Goodwill Ambassador, Japanese actress and author Misako Konno, was appointed in Tokyo last October.

▲ Papa Sousa entertains at a reception before the IDEP ceremony.
▶ Secretary-General Kofi Annan, Danny Glover, Joe Pesci, UNDP Director of Public Affairs Djibril Diallo, Naomi Campbell, *Beloved* Director Jonathan Demme and *Beloved* Producer Edward Saxon.

PHOTOGRAPHS: ROBERT MASSUNDI/UNDP

◀ Behind the scene at the IDEP reception held at the UN and sponsored by The Coca Cola Company.
▼ Nane Annan and UNDP Administrator James Gustave Speth welcome Danny Glover.

VOICE TO THE POOR

Misako Konno

Konno, who became committed to the cause of development after trips to India and Nepal, believes that as a television personality, she has the power to appeal to a large segment of Japanese viewers, getting them to support UNDP's global campaign against poverty. She has already met with Japan's Prime Minister Keizo Obuchi to share her views on development assistance. Later this year, Konno will travel to several countries in Asia to see development in action.

In addition to Goodwill Ambassadors, UNDP appointed its first "Youth Emissary," Atlanta Hawks basketball star Dikembe Mutombo, in January 1999.

As Youth Emissary, Mutombo will spearhead a global campaign to enlist young people in the fight against poverty by bringing visibility to youth-related UNDP projects around the world. These projects aim to empower youth to fight poverty in their communities and provide a platform for the voice of youth on issues of poverty.

Dikembe Mutombo

Mutombo has a long-standing commitment to development. Before his Youth Emissary appointment, he had served on an advisory committee for UNDP's commemoration of the 1998 International Day for the Eradication of Poverty. When not playing basketball, Mutombo has travelled throughout Africa to host basketball "clinics" for as many as 2,000 children a day. Drawing on his own funds, he set up the Dikembe Mutombo Foundation in 1997, to help improve health care in his hometown of Kinshasa, Democratic Republic of the Congo. In 1998, his humanitarian work was honored by the US Congress.

Each one of these individuals has made a personal and professional commitment to address the universal humanitarian issues that underpin UNDP's mission. By their individual talents and influence, they are drawing the old and young, the rich and the poor, into the fight against global poverty. ■

December 1995 by proclaiming the United Nations *Decade* for the Eradication of Poverty (1997-2006). The General Assembly urged donors to support developing countries in their efforts to eradicate poverty and to ensure basic social services for all. The root causes of poverty should be addressed, the General Assembly said, through strategies that "focus on environment, food security, population, migration, shelter, education, clean water, sanitation, rural development, productive employment and the special needs of disadvantaged and vulnerable groups." Special attention was to be given to the needs of the least developed countries, particularly in Africa.

In 1995, the international community met in Copenhagen for the World Summit for Social Development to promote global action against poverty, and UNDP responded by making poverty eradication its main goal. About 50 percent of UNDP's total resources now support national programmes that address the root causes of poverty by promoting sustainable livelihoods, equal opportunities for women, good governance and natural resource management.

Highlights from New York

UNDP's Division of Public Affairs organized several high-profile events at United Nations headquarters in the week leading up to and following the International Day for the Eradication of Poverty. It launched a global report, *Overcoming Human Poverty*, noting that about 60 percent of developing countries have formulated plans to overcome poverty since the World Summit for Social Development. The report also shows that 80 percent of developing countries have made national assessments of the extent of poverty with a view to better meet the needs

Poverty Facts

- The world's three richest people have assets that exceed the combined GDP of the 48 least developed countries.
- The world's 225 richest people have a combined wealth of more than one trillion dollars, equal to the annual income of the poorest 47 percent of the world's people (2.5 billion).
- One billion people live without adequate shelter.
- Of the 4.4 billion people who live in developing countries, 60 percent lack basic sanitation, and a third lack safe drinking water.
- In 100 developing countries and "transitional" countries, incomes are lower than they were 10, 15, 20, and in some cases, 30 years ago.
- In at least 10 developing countries, the average household has to spend more than half its income on food.
- The poorest fifth of the world's population consumes only five percent of all meat and fish; the richest fifth consumes 45 percent.
- The poorest fifth uses only 1.1 percent of all paper products; the richest fifth 84 percent.
- In some of the world's wealthiest countries as many as one in five people live below the national poverty line.
- In every country more women than men are poor.
- In the least developed countries more than one in 10 infants die at birth or before their first birthday.
- Fourteen percent of people in developing countries are not expected to live to age 40.

(Facts taken from the Poverty Report and the Human Development Report)

ROBERT MACGOUGAN

Clockwise from top left: UN Secretary-General greets Glover, Diallo before event. Awardees tell audience how they are winning the race against poverty.

of their poorest citizens. The report also states, however, that far fewer governments have the resources to back up their poverty-eradication plans. It notes that despite progress, 30 percent of all children under five in developing countries are malnourished, and 38 percent of adult women are illiterate. The report calls for greater investment in poverty reduction programmes.

Another special event during the week of IDEP was a benefit screening of the film *Beloved,* in which UNDP Goodwill Ambassador Danny Glover co-stars with actress Oprah Winfrey. Proceeds from the event helped establish the United States Committee for UNDP. A special reception, made possible by The Coca Cola Company, honoured the five recipients of the 1998 poverty awards.

Mr. Glover is one of a number of Goodwill Ambassadors who have been appointed by UNDP to help focus world attention on the needs of the poor. Apart from participating in the special IDEP events in New York in October, Mr. Glover also travelled to Africa where he met with top officials in Namibia, South Africa, Senegal and Mali and visited UNDP poverty-alleviation projects. Other UNDP Goodwill Ambassadors include Nobel Laureate Nadine Gordimer of South Africa and Japanese actress and author Misako Konno. In the past year, Ms. Gordimer has published essays and editorials on poverty in major international newspapers and has visited UNDP poverty projects in Chile and South Africa. Ms. Konno and UNDP Administrator James Gustave Speth launched the *1998 Human Development Report* in Japan.

While in New York for the ceremony, the awardees participated in a number of high-level meetings with their countries' ambassadors, UN officials and representatives of non-governmental organizations. They also participated in an inter-faith service on poverty.

In the Public Eye

The IDEP awardees were also interviewed by local and international media organizations.

Ms. Wakumire was interviewed by CNN's *Diplomatic License* program, CNN International, The British Broadcasting Service and by *Africa Recovery* magazine. Ms. Beltré was interviewed by the *Agencia Española de Noticias (EFE), Latino Magazine,* CNN Español and the Dominican Republic newspaper *El Nacional.* Ms. Bee featured in more than 25 newspaper and magazine articles, including *India Today, India Abroad, The Times of India* and *New York Newsday.* Ms. Rouvet was interviewed by *Le Figaro* and the newspaper *l'Humanité.* She was also interviewed by her local newspaper *La Montagne* and by Voice of America. Both Ms. Rouvet and Ms. Al-Saadi were interviewed by UN Radio.

Broad media coverage given to the 1998 awardees generated increased financial support and national recognition of their work. In December, the mayor of Ms. Rouvet's home town, Clermont-Ferrand, awarded her the medal of the city. The Dominican Republic Housing Authority announced that it would provide additional funding to the UNDP community housing project that Ms. Beltré helped to lead, facilitating the construction of 100 more homes and a community centre.

Jordan's Minister of Social Development announced that his office would help Ms. Al-Saadi create a Society for Family Development and Charity to assist orphans and provide income-earning opportunities for women. In the United States, the New York chapter of the *Coalition of 100 Black Women* announced that it would give a high school and college scholarship to one Ugandan child in Ms. Wakumire's community.

The accomplishments of the awardees show that the race against poverty can be won and that the goals of the International Decade for the Eradication of Poverty can be achieved. All that is needed is for more people—at local, national and international levels—to join the race and follow the courageous examples set by Ms. Al-Saadi, Ms. Bee, Ms. Beltrè, Ms. Rouvet and Ms. Wakumire.

Save the Storks, Touch the People

By Mary Jo McConahay

Zwykowo, Poland—Ride through the countryside during the short, brilliant Polish summer, along narrow roads lined with flush maple and linden trees, occasionally slowing the car to curve around a horse-drawn cart. Stop along the way in a village like this one, in the northeast near the Russian border, and locals will ask with quiet pride, "Have you seen our storks?"

The birds' distinctive big nests—old ones used over several years can weigh hundreds of kilos—might balance on the peak of a farmhouse roof, or a chimney, or amid castle turrets where they have rested for a century. Increasingly, however, nests sit perilously atop power poles, with live wires running a few inches away, ready to electrocute the fledgling that fails the first attempt at trying its wings.

Instead of being composed of the usual forest flotsam and jetsam, nests near modern farms sometimes include bits of discarded plastic rope, which tangle around the legs of the young so inextricably they die of wounds and infections. And there's the rub. As wetlands shrink, and farm methods change, and habitats become less diverse in traditional stork nesting grounds, fewer fledglings survive, and the population of this endearing bird is suddenly at risk. International experts classify the white stork as "vulnerable," which means its population decreased by 20 percent or more from 1970 to 1990.

It is a phenomenon troubling to Poles, who like to remind the visitor that "one out of four of the world's storks is Polish." Of 19 global species, only two breed in Europe: the black stork, rarely seen, which lives deep in the darkest, wettest woods and avoids people; and the white stork of fairy tales, at home in human company, which breeds more in Poland (40,000 pairs) than any other country. Keeping the population high here, bird experts say, is critical to the survival of the species everywhere.

One wouldn't think that would be so difficult. Polish law forbids killing or even scaring away a stork, or removing its nest from a roof except between certain (non-nesting) dates. Popular beliefs especially protect the birds. Some villagers, for instance, say to kill a stork invites disaster upon the entire community. Or they may believe removing a nest causes the angry bird to return with a flaming branch to ignite the house of the offender and maybe neighbours' homes too. Farmers and townspeople grin when they say "everyone knows" storks bring babies. The elegant white bird with its orange beak is truly considered a good omen here, a Polish reflection of a wider and ancient belief that the stork has a special relationship to humans. Early Christians believed a stork flew around Christ's cross and showed him sympathy. In traditional tales from Europe, Greece, and Arab lands, storks turn into human beings. One legend says they weep human tears.

Here in Zwykowo—a nine-family village of red tile roofs that survives by harvesting potatoes, wheat, and rye—farmers report that storks accompany them to the fields, as if the big birds were friendly dogs, walking on their princely legs behind the old tractors, eating what comes up with the newly turned furrows.

Like Clicking Castanets

"If a man doesn't like a stork, he doesn't like himself," said farmer Wladyslaw Andrejew, as he just came in from the fields. Alongside a weathered barn, he was busy constructing nest platforms designed and financed by ProNatura, a Wroclaw-based organization supported by the Global Environment Facility (GEF), which is managed in part by the United Nations Development Programme (UNDP). In the clear air, the conversing sound of storks—like clicking castanets—occasionally competed with the sound of the pounding hammer. Farmers like Andrejew, and ProNatura volunteers across Poland, place the platforms on the roofs of houses and barns to protect structures from the weight of nests. They also erect them on utility poles in a way that makes safer foundations for the 30 percent of stork families that now insist on nesting there. ProNatura began with only 12 platforms in 1994, financed by members themselves. But today it has more than 5,000 in place across the country, often built or hauled into position by volunteers like Andrejew.

ProNatura began small but cleverly, convincing local electric supply

A symbol of good luck, Poland's white storks are welcome residents on barn roofs.

companies to become involved in constructing safer grids to protect the bird, which in turn saved them downtime from nest fires and "leaking" power—a nest can take away up to 600 watts from electricity lines. Perhaps most importantly, ProNatura has steadily cultivated the media and provided materials and instruction for over 250 schools. It has enlisted participation of local authorities, and doggedly spread the word, creating a consciousness among Poles nationwide, about the need to protect endangered wetlands, symbolized by their beloved stork.

Co-founder and director Roman Guziak said the "young" (established 1990) Polish Society of Wildlife Friends ProNatura chose to concentrate its energy on storks because it is a "flagship species" in Poland, like the bald eagle in the United States, for instance, or the jaguar in Central America. By means of conserving a particular charismatic or cherished "flagship" animal, "you'll save many others," Guziak said. "Here storks mean wetlands, so saving them means saving frogs, toads, the corncrake—a short-billed, crane-like bird that loves to run in mud—and all the other animals you rarely see, or nobody cares about."

Its efforts earned ProNatura early support from the GEF's Small Grants Programme (SGP), which backs some 61 other projects in Poland tackling a range of environmental issues: legal protection to old pines in primeval forest; protection of owls and salmon and birds of prey; and small-town strategies for protecting water resources.

Monies are not extravagant: SGP Poland has approved assistance totaling US$750,000 since 1994. Funding for the projects, together with in-kind contributions from non-governmental organizations (NGOs)—Ecofund, National Fund and others—totals $2 million. But with the recognition, funding, and technical support, NGOs often attract other sources of help as in the case of ProNatura, whose white stork programme has grown into a project of national significance and has gained international attention.

Beyond Storks

The strength of the stork work and proliferation of local conservation efforts reveal a Polish population increasingly environmentally conscious since the soft revolution of 1989 and the coming of democracy. The national government invests some $1 billion a year in environmental protection. But it is ordinary Poles, many of them youngsters, who band together to save a lake, a habitat of a tiny bat, or volunteer to collect plastic ropes from farm fields to prevent harm to the baby storks. It is another way of breaking with a past in which industrial production—symbolized by belching chimneys—fouled water and air, and of looking ahead to a time when environmental concerns must weigh more heavily in decisions about national direction.

"It has been said the environment will be the most challenging element for Poland's inclusion in the European Union (EU)," said GEF/SGP National Programme Coordinator Przemyslaw Czajkowski at the UNDP office in Warsaw. Air and water quality standards must be met, for instance. Emission and greenhouse gas levels don't yet make the grade. "UNDP support for environment work helps aim at these EU accession requirements," said Czajkowski.

Poland's EU role three to five years hence is of little concern in the village of Zwykowo this bright day. Instead, the farmer Andrejew invites the visitor inside his house and speaks over warm, home-baked rye bread of the coming winter, and the price of grains. Yet in some ways locals consider they already hold an important place in the region. "We have 42 pairs of storks in Zwykowo," Andrejew says. "That's a European village record, you know." ■

Mary Jo McConahay is an editor for the Pacific News Service. She is a contributor to other publications, including Newsday, San Francisco Examiner, National Catholic Reporter *and* Sierra Magazine.

GREENING OF THE GOBI

By Florence Compain

Ulaanbaatar, Mongolia—Snugly wrapped in his large felt overcoat, white helmet and knee-high boots, 59-year-old Baraaduuz is an exception in these parts. A veterinarian turned politician and now farmer among nomads, he tends vegetables and almond trees in the Gobi desert — a flat , stony plain that stretches 1.3 million square kilometres across Mongolia and into China.

Baraaduuz' garden is an oasis in an expanding wasteland, buffeted by sandstorms and a voracious livestock population. Since the privatization of livestock production in 1991, the country has experienced an explosive increase in the number of cattle, sheep, goats and other animals—31 million in total for a country of 2.5 million people. The goat population alone has surged from three million to nearly 10 million in the past three years in response to rising global demand for cashmere. The result has been widespread and permanent destruction of pastures, says Ts. Adiyasuren, adviser in the Ministry of Agriculture. [Mongolians typically use only their last names, but sometimes add an initial to differentiate between people with the same family name].

"Gardening is the only way to ward off disaster," says Baraaduuz, whose fruit trees and vegetable rows are helping to bind the soil against erosion and provide him with a very good income.

Baraaduuz sells his vegetables in local markets. "At 100,000 tugriks (US$122) a month, I make a better living as a gardener than I did when I was vice governor of the province of Omnogovi," he says.

"Before, there were only a few tufts of dry grass here," Baraaduuz says, pointing proudly to rows of onions, cabbages and carrots, and some 5,000 almond trees. "These crops and trees protect the oasis from erosion and sandstorms." The almond trees also reduce salinity in the soil.

Baraaduuz' seemingly herculean task of winning back the desert was supported by a grant of three million tugriks ($3,667) from the United Nations Development Programme (UNDP), but even so, his family and neighbours doubted his ability to succeed. "At first, his family was very skeptical," says P. Tsetsgee who works for the project. "But after the first harvests, he managed to convince his wife to lend him a hand."

Baraaduuz has been tilling his land for five years. He brings in 40 truckloads of manure to fertilize his fields each year, delivers fodder to neighbouring cattle herders, and works on a new home he is constructing for his family. But the most critical part of his task is to experiment with new plant species to identify those best able to adapt to the desert's extreme conditions. Winters are arid and last more than six months. Temperatures can dip to -40 centigrade.

He hopes that others will follow his example. "There are 300 natural springs in Omnogovi. They could irrigate hundreds of hectares of land and create work for many other families."

According to Ts. Adiyasuren, Soviet subsidies used to encourage some of the nomads to settle on the land and cultivate it for crops. Until 1990, about 1.2 million hectares—amounting to about one percent of Mongolia's land—was farmed. But today, "half these fields suffer from some amount of soil erosion," the official says. The shift from a planned system under the Soviet yoke to capitalism abruptly ended the subsidies, eliminating incentives to work the land and leading many to return to their nomadic way of life.

In the small southern village of Mandalovoo which suffers frequent sandstorms, farmers must overcome the additional obstacle of severe water shortages, which have hampered most efforts to stop the desert from spreading. "We have been victims of drought for four years," says Tsogbadrakh, head of the local *soum*, or district. "And the wells that used to provide water are now gone because they have not been maintained."

Mongolian officials say that overgrazing is contributing to water shortages throughout the Gobi. "Today, a family needs more than 200 head of cattle to live decently," says L. Tsetseg Ufizu, vice governor of the Province of Omnogovi.

UNDP Resident Representative Douglas Gardner adds, "If we can improve the quality of livestock, we'll be able to persuade cattle-raisers to reduce the size of their herds." Gardner says that a new crossbreeding programme and a protein-rich diet for cattle are starting to yield results.

"As soon as Mongolians have some money, they invest it in livestock," says Gardner's colleague Bruno Pouezat in Ulaanbaatar. "Once the banking system and the entire economy are stronger, that phenomenon will decrease."

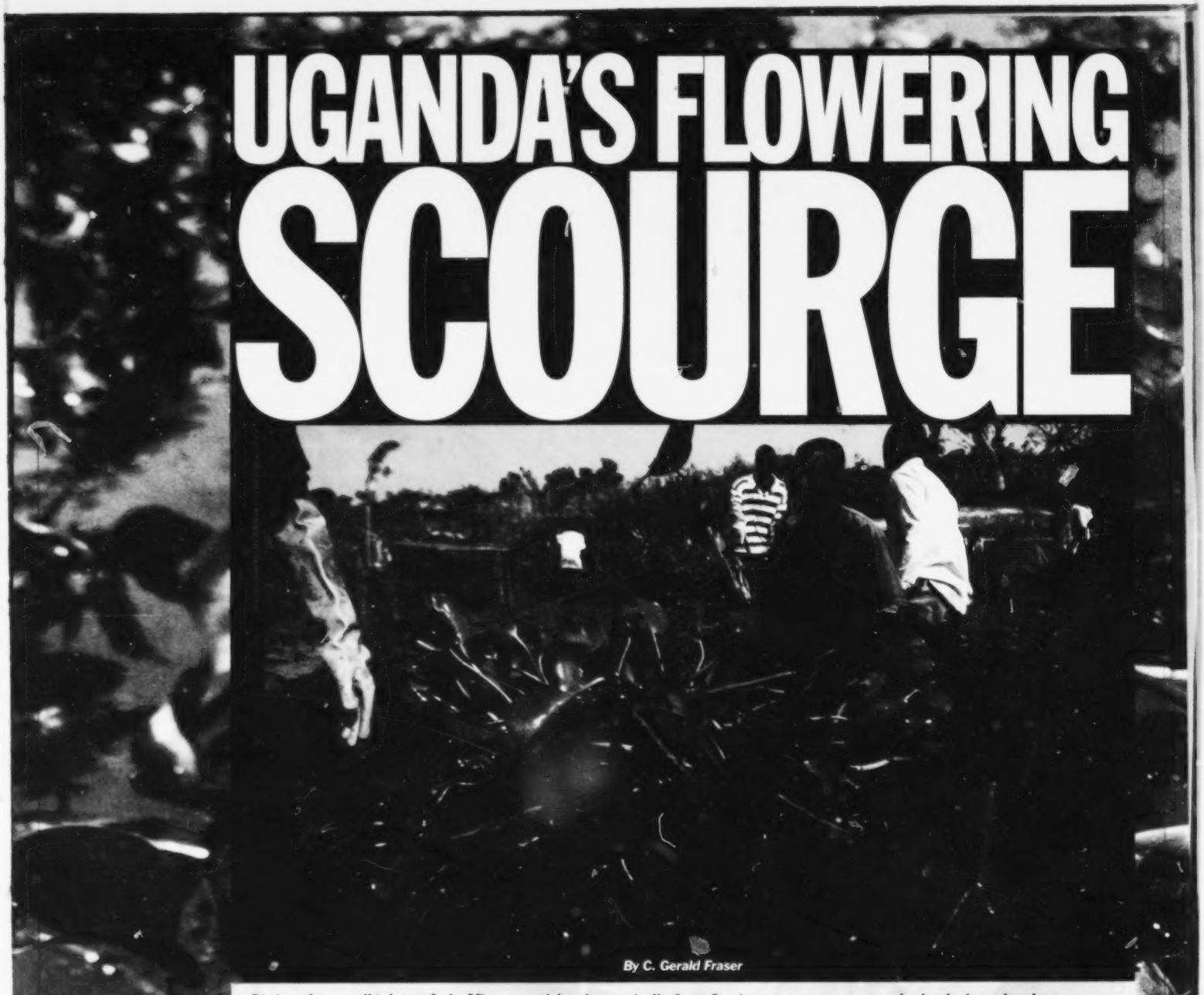
Mongolia's few forests are also under siege. Twenty years ago, forests covered 15 percent of the country. Forest cover today is down to eight percent. About 2.4 million hectares of forests were lost in a major fire in 1996, and the gathering of wood for fuel and lumber continues to have a devastating effect. With the demise of the forests has come the gradual loss of biodiversity. An estimated 200 animal and plant species now face extinction.

Although Mongolia has armed itself with comprehensive environmental legislation developed with support from UNDP, it still lacks trained professionals and funds to put up an effective fight. UNDP training programmes in a broad range of environmental fields, including management of protected areas and the development of environmentally sound industries, are helping to resolve this problem. A UNDP-supported campaign to raise environmental awareness should also help make a difference, but this is a long-term process. According to Gardner, immediate action is also essential.

"Something has to be done," Baraaduuz says. "Making the Gobi green is an important mission. When I die, I hope that my grandson will take up the cause." ■

Florence Compain is the Bangkok Bureau Chief for Le Figaro, *Paris, France.*

UGANDA'S FLOWERING SCOURGE



By C. Gerald Fraser

Jinja—At a small inlet on Lake Victoria, a tall man wearing a sweat-drenched tee-shirt, hip boots, and elbow-length, orange, rubber gloves, is thigh deep in water, wielding a machete against an endless blanket of floating water hyacinth.

Victoria is the world's largest tropical lake, but at the Wanyange inlet, near the lakeside town of Jinja, no water is visible. A glut of the hyacinths obscures the surface and prevents fishing boats from leaving or approaching the landing. The effect is profound. Water hyacinths, here and elsewhere in this vast lake, have devastated local economies and inspired local, national and international efforts to combat the poverty caused by this scourge.

Water hyacinth, or *eichhornia crassipes*, grow to about one metre long. Although they can take root in the bottom of the lake, they typically form floating mats that disrupt fishing, impede water transportation, and sometimes interfere with the production of hydroelectric power, as they have done in Uganda at the Owen Falls Dam.

Lake Victoria, about the size of Ireland, is infested with an estimated 10,000 hectares of water hyacinth, choking off some 80 percent of the 3,500-kilometre shoreline, with its numerous bays and inlets.

In Wanyange, the green plants with their mauve flowers cover an area the size of three soccer fields. Fishermen here go to war against the pesky perennial, hoping to clear a 50-metre path to the main part of the lake. After the plants are chopped, some men rake them toward shore while others use pitchforks to lift them from the water and heave them into shiny, green wheelbarrows. Boys, as well as men, wrestle the wheelbarrows through the mud onto dry land where the plants are dumped, later to be burned. Clusters of women observe.

Ordinarily, when the fishing boats arrive at the landing site, the women are there to buy the catch. They either resell the fresh fish in nearby markets or preserve them in smokehouses. Clearing the hyacinth is a matter of survival for the women and the fishermen who both count on the lake for their daily income, according to Jofrey Kibwka, chairman of the landing site.

Resident mats of water hyacinth do more than block access to the fish. They also reduce the level of oxygen in the water, killing off fish that would normally spawn in the area. Fish that survive often migrate farther into the lake toward more hospitable areas, which are out of reach of the fishermen's small man-powered boats.

Returning with the day's catch can be a time-consuming struggle, with the weeds hampering the boats' movement. The trip sometimes takes so long that the unrefrigerated fish spoil in the hot equatorial sun before the boats ever reach the shore.

Talking to visitors at the Wanyange landing, Uganda's national coordinator for water hyacinth control, Dick Nyeko, says that the distribution of the weed "coincides with areas where there has traditionally been a lot of activity. Ninety-nine percent of the fishing industry in Uganda is concentrated at least five kilometres from the shore."

Pointing toward a group of idle fishing boats tipped upside down on the beach, Nyeko continues, "As you can see, those small craft cannot go far out into the big waves of the lake. The fishermen use muscle power to propel their boats. They are not using outboard engines, so they cannot go five kilometres out. That is why the weed knocks them out of production."

Nyeko says that committees have been formed at various landing sites to remove the weed. Their sleek, all-metal wheelbarrows, machetes, pitchforks and rakes are supplied by the United Nations Development Programme (UNDP). Hip boots and gloves are also furnished to the men working in the water because the plants may harbor snails, which carry the tropical disease, bilharzia. UNDP has contributed US$572,970 toward the control of water hyacinths.

Contributions from other donors to the effort are indications of the problem's depth. The UN Food and Agricultural Organization, for example, has donated $143,000, and the Global Environmental Facility has given $3 million. Bilateral donors including the Netherlands and the United States, also support the project.

The hyacinth poses similar challenges elsewhere in the world, including its native Amazon Basin in South America.

Uganda's *State of the Environment Report* for 1996 says that certain diseases, along with parasites and animals that graze along the shoreline, have helped keep the weed somewhat in check in South America. But in Uganda, the hyacinth has not had any "natural enemies" and "now seriously affects all the major water bodies of Uganda, including lake Victoria and Kyoga, as well as the River Nile."

The weed has ruined the economies of a number of villages along the lake, but it also threatens to hurt the national economy. Fish is Uganda's second-largest export after coffee. Each year, the country sells 60,000 metric tons of fish worth $100 million to other countries. The Nile perch, found in the far-offshore waters of Lake Victoria, brings in the most money.

No one is certain how the hyacinth was transported to Lake Victoria from South America, but some believe it was brought to the area decades ago as an ornamental plant.

People involved in the project have several options for eradicating the hyacinth. The first, which is the one in use in Wanyange, involves manually cutting and hauling away the plants. The other method—removing the plants mechanically with harvesters, conveyors, and push boats—has helped attack the large, floating, itinerant mats. A $1.8 million contribution from Japan has funded two mechanical harvesters.

Chemical means are another option. Herbicides can kill the plant, but authorities say these would harm other plant and animal life in the water. Besides, since two other nations—Kenya and Tanzania—share the lake's shoreline, an international agreement would have to be reached before any chemicals were ever used.

But what appears to be a promising new method is to use one organism to kill another. Two kinds of weed-eating weevils, *neochetina eichhornia* and *neochetina bruci*, which are not native to the area, are capable of slowly destroying the weed. This is an inexpensive, low-maintenance, and long-term solution that has worked elsewhere. The only drawback is that the process takes time, and some communities need immediate results.

In Masese, another Ugandan village on the lake, the weevils introduced into the hyacinth beds weakened the plants, which eventually turned brown and died. Masese's market rebounded at the local boat landing after the weeds were eliminated. Produce, textiles, smoked and fresh fish and other goods are now sold there, just as they had been before the weeds took over the shoreline and put an end to commerce. Women use boats to bring in charcoal from islands in the lake and they once again manage most of the market's activities.

Whether it's to catch the large perch or the small tilapia, Ugandans are saving their fishing industry. ■

C. Gerald Fraser, a former cultural news writer and columnist for the New York Times, *is a senior editor of the* Earth Times.

ZÉPHIRIN DIABRÉ

MANAGING CHANGE

Africa's priority for the next century is to restore and consolidate peace, says Zéphirin Diabré, who was named Associate Administrator of the United Nations Development Programme last December. Diabré, formerly Burkina Faso's minister of economy and chairman of the Council for Economic and Social affairs, talks with Choices' editor-in-chief Djibril Diallo about his role in UNDP and shares his views on aid and the prospects for Africa's development.

By Djibril Diallo

What in your opinion are the severest challenges that UNDP will have to face in the 21st century and how do you think the Programme should approach those challenges?

Like all multilateral organizations involved in the promotion of economic development, UNDP must first demonstrate credible results.

The persistent difficulties in the daily lives of the increasing numbers of those living in poverty inevitably give rise to feelings of despair and raise valid questions about the effectiveness of these organizations.

At the same time, beset by their own problems and under severe pressure from their taxpayers, aid donors are sometimes overcome by donor fatigue and are tempted to do less.

This explains the worrying trend in which the level of official development assistance is steadily declining even as the forces of globalization, when crises occur, marginalize larger and larger sectors of populations.

Because of its vocation and mission, UNDP will have to confront these opposing currents under pressure from both those who expect much from the Programme and those who have seen their development aid decline. Its main challenge then is to reconcile these two realities. The only approach that would guarantee success would be the one that was adopted under the leadership of James Gustave Speth within the framework of the UNDP 2001 process: concentrate on activities in the field; pay greater attention to the aspirations and hopes of "clients"; refocus priority on activities which, though smaller in scale, are better adapted to local situations; and improve performance by doing more with less. This process of reform, moreover, is taking place in the broader context of the system-wide reforms initiated by Mr. Kofi Annan, Secretary-General of the United Nations, to enhance the organization's effectiveness in promoting peace and development.

Your duties as Minister of the Economy, Finance and Planning as well as of Economic Adviser to the President of Burkina Faso have made you well acquainted with the inner workings of the Bretton Woods institutions. In your opinion, what might the optimal relationship be between UNDP and these institutions in the future?

The mutual exclusion which a certain school of development policy has attempted to establish between rigorous macroeconomic discipline on the one hand and the culture of deficits driven by social spending on the other is completely artificial and unsupported by the facts.

There can be no development without disciplined financial management, sound macroeconomic policies, good governance and the essential reforms that are the core of structural adjustment programmes. But development without education, access to drinking water, a healthy environment, a well-paid job, in short, development without some degree of human security is not real development.

Recent events in Asia have served as a cruel reminder of the danger of a unipolar vision on this matter.

The road to the necessary complementarity between the two approaches symbolized respectively by "Bretton Woods" and "UN Plaza" is clear. This then is my con-

ception of the division of responsibility between our two institutions and I wish to note here with satisfaction that James Gustave Speth has succeeded in laying the foundation for this necessary dialogue, both at headquarters and in the field. Our task now is to integrate this approach into every aspect of our mission.

As Associate Administrator on which particular areas will you focus first?

Under the direction of the Administrator, the Associate Administrator is required to ensure that UNDP operations in the field are carried out in the most efficient manner possible. This will be my main concern, a concern that is dictated, moreover, by the inescapable necessity to be ever more effective at the grassroots level and by the imperatives of sustainable human development.

Development aid is currently at its lowest level. UNDP, however, is still held in high regard by the donor countries. In your capacity as Associate Administrator of UNDP, what is your message going to be to these partners?

Those who believe in the cause of development must not lose hope. We are sometimes more inclined to highlight the persistence of economic difficulties in the countries of the South and the widespread instability which can lead to despair. We must instead focus more on the progress that has been achieved in the most remote villages, where the daily lives of thousands of persons have changed for the better: education, health, environment, potable water, etc. In my view, not enough attention has been paid to these successes, which have been achieved thanks to the commitment of countries that have a greater sense of their responsibilities to their populations than they are sometimes given credit for.

These successes have also been due to the commitment of those within UNDP and other organizations who serve the cause of development and who dedicate their energies and sometimes their lives to that cause.

The programme of reforms upon which UNDP has recently embarked eloquently illustrates the fact that the desire to do more and better is the driving force behind these organizations.

These are but some of the many reasons why donors should continue their efforts. Not to mention the fact that the world would become unlivable if we all abandon our inescapable duty to fight against poverty.

As we approach the new millennium, what are in your view the major challenges that Africa will have to face?

Africa must first restore and consolidate peace. The hotbeds of tension are still too numerous on the continent. The destruction of human lives and infrastructure that all too often results seriously compromises its future. Without peace, all our efforts to improve the well-being of the people are doomed to failure. The tireless efforts of the Secretary-General of the United Nations in this area are based on this conviction and harmoniously complement the dispute-settlement mechanisms created by the Organization of African Unity.

Africa must also improve its method of governance, in other words, its entire management system and the way it builds its future. Its deficiencies in this area are far too numerous: democracy must be more widely shared, the management of public affairs more rigorous, individual and collective freedoms better protected, the security of property and persons better assured and the equality of citizens more effectively promoted.

Finally, Africa must be successfully integrated into the process of globalization and find the right balance between economic growth and poverty reduction. The world is in the grip of powerful forces of change which keep it in a perpetual state of flux. In the economic field, the dynamic of interdependence that we are now witnessing must be viewed by Africa not as a threat but as an opportunity to be seized for sustainable human development. This means that it must pursue more determined economic strategies, change certain patterns of behaviour and stop believing that the world must adapt itself to Africa's needs. And in doing so, Africa must not forget that there are no riches but human riches and that the fruits of economic growth must be placed exclusively in the service of the fight against poverty and social inequality.

How do you explain the generally negative portrayal of Africa in the international media? What do you propose as an antidote to this Afro-pessimism?

In some of the media, one can see that, where the image of Africa is concerned, sensationalism and caricature appear to be predominant in the way the continent is depicted. While there is no doubt about the reality behind that image, little mention is made of the undeniable successes which a number of countries have had in recent years.

Should we then blame the media? The question is a complex one. Undoubtedly, the current structure of the global media system does not cater to the needs of those outside the circle of power and influence. But the truth is also that the image of Africa portrayed is unfortunately based on a sad reality, which is all the more unacceptable as it concerns that part of the globe that can least afford the luxury, so to speak.

As regards the solution, only solid work and the efforts of Africans themselves to change their lot and earn a better place in the global competition can oblige decision-makers in the media to project another image of them.

UNDP and Africa have long been associated with each other. Could you highlight those areas in which UNDP has made a difference on the continent? In what other areas should this partnership be strengthened?

There is indeed a long tradition of partnership between UNDP and Africa, but

this tradition has evolved greatly in recent years. We must remember that, in the context of UNDP 2001, UNDP is evolving in a way that brings us much closer to our clients than we were in the past. As Minister of Finance in my country, this is how I most appreciated the assistance that UNDP provided in a manner that was respectful of our national strategies while focusing on the elimination of poverty as its main priority. I would like to see UNDP continue in this direction, as the partner of national governments in conceiving a vision of sustainable human development and in forging closer ties with the components of civil society, namely, academic institutions, non-governmental organizations and the private sector. ■

By Ian Steele

We call our planet Earth, but 70 percent of its surface is covered by water to recorded depths of up to 11 kilometres. The oceans power our climate and weather systems and contain most of the planet's life forms and genetic diversity. They sustain life as we know it, providing the main source of animal protein for more than one billion people and livelihoods for more than 200 million. The oceans also provide ecological services valued at more than US$22 trillion annually. These services include the absorption of greenhouse gases and the moderation of climatic extremes.

In return, however humankind has abused its ocean resources terribly. Sixty percent of the world's people live within 60 kilometres of the coast. Sixteen of the world's 23 largest cities hug the shoreline and are growing at a rate of about one million people a day. Coastal communities discharge millions of gallons of raw sewage, toxic wastes and solid garbage into local waters every day. An estimated 21 million barrels of oil flow unchecked into the oceans every year from city streets and sewers.

More than half the world's coastal wetlands have been destroyed by urban development and their loss as breeding grounds for marine life are estimated to be costing local communities as much as 4.7 million tons of fish a year. Coral reefs, which rival rainforests in biodiversity, are being destroyed by silt from eroding farmland which is carried to the coast by rivers; by coral mining for the tourist trade and by pollution. This pattern of destruction has grave implications for poor communities that rely heavily on endangered coastal habitats for their food and livelihoods.

Offshore fishing is big business and very competitive. According to the United Nations Food and Agriculture Organization (FAO), the value of international fish exports in 1994 totalled $47 billion. Eighty percent of this haul is taken by just 20 countries, some of which send their fleets thousands of miles from home. Industrial fleets tend to fish indiscriminately, hauling huge nets that trap and drown everything in their path. They keep the high-priced species sought by wealthy consumers and throw the rest away. About 27 million tons of fish are discarded every year by industrial fishermen. FAO warns that 70 percent of the world's conventional fish species are either fully exploited, overfished, depleted, or slowly recovering from over-exploitation.

In the late 1950s, when nations realized that exploitation of the planet's last frontier was out of control, they turned to the United Nations to help restore a sense of order to human behaviour on the high seas and in the coastal territories that border them. A great debate was joined on the peaceful and sustainable use of the oceans and their resources. It was eventually decided that all ocean resources beyond the coastal territory of individual nations should be declared the Global Heritage of Mankind, to be protected and harvested for the good of all countries. The United Nations Law of the Sea Convention has enshrined this vision of global sharing in international law. More than 120 nations have agreed to abide by the Convention, and every sea-loving nation on Earth voted to declare 1998 "The International Year of the Ocean."

The United Nations Development Programme (UNDP) supports training for better management of coastal and ocean resources in many countries. It also helps national scientific institutions establish laboratories that monitor threats to the marine environment. UNDP works closely with non-governmental organizations and schools to increase public awareness of human behaviour and its impact on the oceans.

In response to a recent surge of country interest in ocean resource preservation, UNDP is investing its own resources and those of the Global Environment Facility in programmes to protect or rehabilitate endangered or degraded marine ecosystems in the Black Sea, the Red Sea, the Gulf of Guinea, the East Asian Seas, the Caribbean, and the South Atlantic and South Pacific oceans. UNDP recently launched a strategic initiative for ocean and coastal management to document best practices on its website *(www.sdnt.undp.org/siocam)*. ■

KEEPING COASTAL WATERS CLEAN

A Brazil-based programme supported by UNDP has trained environmentalists and policy makers from more than 15 countries in good coastal management, since 1995.

Participants in the Train-Sea-Coast programme learn how to deal with the impact of tourism and recreation in coastal cities as well as how to deal with coastal erosion and pollution. Courses are planned according to the special needs of the participants.

The programme is hosted and maintained by the University of Rio Grande and also supported by the federal government and the Inter-Ministerial Commission for the Resources of the Sea.

Participants are encouraged to bring data on their regions so that the training programme can address their particular needs and problems. They also learn how to diagnose problems in coastal areas and the latest techniques to resolve them. According to Dr. Enir Girondi Reis, the manager of Train-Sea-Coast, the importance of the programme is that participants can apply the practical experience of the course to their local environments.

The project has already trained 70 individuals from 40 different organizations and is so successful that it is assisting to set up a Train-Sea-Coast unit in Uruguay.—*Stella Maris Vallejo*

Stella Maris Vallejo is the global Train-Sea-Coast manager.

NOTEBOOK

SEWAGE BECOMES THE SOLUTION, NOT THE PROBLEM

As much as 95 percent of the developing world's raw sewage is dumped directly into rivers, lakes and oceans. Many cities lack treatment facilities, and among those that do, the systems serve only a fraction of the population.

Neither money nor water is available in amounts large enough to meet the global demand for conventional Western sanitation, which requires huge volumes of water to transport waste away from the typical bathroom. Most toilets use between 50 and 100 litres of water daily to flush away one to 1.5 litres of human excrement. Today, eight percent of the world's population faces severe water shortages, and by 2025, that figure is expected to climb to 35 percent.

With such a serious problem looming on the horizon, water-intensive sanitation systems will be difficult to justify in the years ahead.

A solution to the problem is urgently needed. The global environment can only absorb a finite amount of waste, and inadequate sanitation can lead to the spread of diarrheal illnesses, hepatitis and other diseases, particularly in crowded urban areas of the developing world. Every year, poor sanitation and polluted water together cause nearly two billion cases of diarrhea and 900 million cases of intestinal worms.

Fisheries, one of the main sources of income and protein for the poor are damaged by untreated sewage. Major declines in fish catches have been documented in rivers near cities in China, India, Senegal and Venezuela.

Meanwhile, agricultural research shows that unsustainable farming methods are depleting soil fertility almost everywhere. In all countries, animal waste has been used for centuries to restore nutrients drained from the earth. But more and more, especially in developing countries, animal manure is diverted from fields to people's homes, where it is dried and burned as fuel. Chemical fertilizers may compensate for the loss, but these are commonly unaffordable for the world's poor, 1.3 billion of whom live on US$1 a day or less. And serious environmental hazards are often associated with the use of chemical fertilizers. In industrialized countries, for example, indiscriminate use of these substances has polluted water supplies. Dangerously high levels of chemicals have been reported in nearly one-fourth of Europe's groundwater supplies.

Recycled human waste is an affordable, and environmentally sound alternative to chemical fertilizers, but only a few countries have taken advantage of it. Applying human waste to cropland is safer than using chemical fertilizers, diverts raw sewage from rivers and other bodies of water, and can help raise agricultural production. And it costs only a fraction of sewage treatment facilities.

So-called "ecological sanitation" aims to recycle nutrients from human waste back into the environment and into "productive systems," such as farming. Studies indicate that each person's waste can provide enough nitrogen, phosphorous and potassium to grow a year's supply of wheat and maize for that person. According to some studies, human waste can be an even more effective fertilizer than animal dung.

Urine, which comprises 90 percent of human waste, contains about 80 percent of waste's fertilizer value. It can be applied to fields without treatment because it is generally sterile. Feces, which contain the remaining 20 percent of waste's fertilizer value, carry pathogens and may spread disease. But the pathogens can be destroyed by dehydration, decomposition, or heating.

To prevent the "clean" urine from being contaminated by potentially pathogenic fecal matter, firms in China, Mexico, Sweden, the United States and elsewhere are manufacturing special toilet seats and "squatting slabs" that separate the two forms of waste.

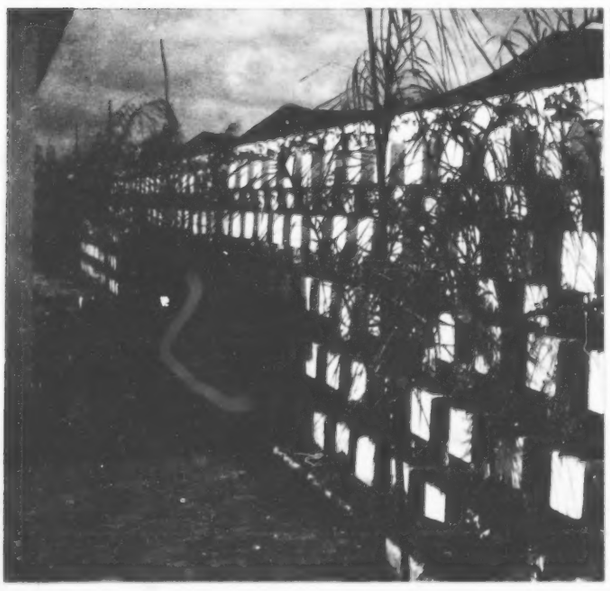
Compared to Western-type sewage systems, ecological sanitation systems are technically simple and can be built at a low cost because they require no water supply, no sewers and no excavation. And most important, human waste becomes part of a natural eco-system—recycled and returned to the land for food production and food security—rather than being dumped as a pollutant.

A project funded by Sweden and carried out by the United Nations Development Programme is promoting further development of ecological sanitation. The effort includes finding ways to make wider and more affordable use of this approach to sanitation, together with steps to ensure that it poses no health hazards. Rural communities in China, Viet Nam and Yemen already apply human waste to farmland. Urban communities in El Salvador and Mexico are also collecting human waste to help revitalize soil in agricultural areas.

Reuse of human excrement is not, however, a new idea. Until recently, it was the norm worldwide.

Encouraging countries to readopt ecological sanitation may require overcoming cultural barriers. While some people do not mind handling human excrement, others find it abhorrent. Most cultures are probably somewhere between these two extremes. Experience indicates that when people see for themselves how a well-managed ecological sanitation system works, most of their reservations disappear. Encouraging results are available from pilot projects carried out in countries as varied as Ethiopia, South Africa and Sweden. ■

— Ingvar Andersson is a senior freshwater adviser in UNDP's Sustainable Energy and Environment Division.



UNDP/WYNBALD

Vertical gardens where recycled human waste is used to grow vegetables in Botswana.

Methane gas produced from cow manure fuels stoves and lamps.

ENERGY FOR SUSTAINABLE DEVELOPMENT

Not yet linked to the national power grid, villages in Syria get their electricity from solar power, while some Mauritanians are replacing their candles, fuel wood, and oil with wind-generated current.

New and clean technologies—ranging from small hydropower systems, to power produced from wind, sun, biomass, and hydrogen fuel cells—are helping developing countries provide energy services to more people—without generating greenhouse gases, which contribute to global climate change.

The use of "cleanly" generated energy takes on increasing significance as countries strive to meet international goals for reducing greenhouse-gas emissions. Despite international progress, some countries participating in the Buenos Aires Convention on Climate Change last November still had deep-seated concerns about the global plan. Some developed countries, such as the United States, have indicated that they would support the package of proposals if major developing countries, such as China and India, also committed themselves to definitive limitations on their emissions.

Developing countries are expected to bear the brunt of the changes in weather systems stemming from excessive greenhouse gases in the atmosphere. Climatic changes that affect food production will likely hit developing countries first and hardest. With a global warming from 1° to 3.5° centigrade predicted for the planet over the next 100 years—an increase greater than any other 100-year period in history—scientists believe that climate changes could have major ramifications, especially in the middle latitudes. This may include a change in rainfall patterns, an increase in drought, and rising sea-levels that could devastate low-lying countries.

Yet climate change mitigation is considered a minor concern for many developing countries that are struggling to provide enough energy to homes and industry to aid development. Inadequate access to modern energy services has been a significant barrier to sustainable human development. Low levels of energy consumption have been associated with many aspects of poverty. When countries start to overcome poverty through development, they inevitably consume more energy and increase greenhouse gas emissions, especially when more conventional forms of energy are used by industry, transport and homes.

A recently released study by UNDP and the World Resources Institute, *Promoting Development While Limiting Greenhouse Gas Emissions*, found that many developing countries are already taking meaningful steps to reduce their climate-altering emissions.

According to Thomas Johansson, director of UNDP's Energy and Atmosphere Programme, one of the greatest obstacles to the widespread use of energy-efficient technologies and renewable energy sources is a lack of information. "Basically, we try to help countries see and use energy as a tool for sustainable development, for poverty elimination, for improving the status of women, and for the reduction of environmental degradation." UNDP, he said, works to help countries build national capacity, establish a regulatory framework that provides incentives for sustainable energy, promotes technological and institutional leapfrogging, and helps countries develop national energy-action programmes.

In Mexico City, for example, where the air quality ranks among the worst in the world, UNDP has worked to promote programmes to develop and introduce buses powered by

MORE COUNTRIES JOIN PHASE-OUT OF OZONE DEPLETING SUBSTANCES

Sixty-five developing countries are phasing out their use of ozone-depleting substances (ODS) with help from the United Nations Development Programme (UNDP), as of the end of 1998. With a budget of US$231.6 million, the 893 projects under way in these countries will eventually eliminate 29,553 tons of ODS from the earth's atmosphere—one-quarter of total approvals under a Multilateral Fund, created in 1990 by aid donors to help developing countries pay for actions aimed at phasing out these substances. UNDP, the UN Environment Programme, the World Bank and the UN Industrial Development Organization are jointly helping implement ODS-eliminating projects worldwide. The Fund was established in response to the "Montreal Protocol," an international agreement reached in 1987 to protect and regenerate the global ozone layer.

UNDP helps countries develop national strategies for protecting the ozone layer, build the capacity of institutions in charge of environmental matters, and gain access to a range of ODS-controlling technologies.

In countries as varied as Brazil, China and Sri Lanka, UNDP projects have eliminated the use of chlorofluorocarbons—one of the most damaging ozone-depleting substances—in the production of refrigerators, ice boxes and cold-storage displays.

In India, through an umbrella project that UNDP designed, 80 small-scale manufacturers of rigid foam thermoware (used in flasks, lunch boxes, etc.) will convert their processes to more ozone-friendly options. UNDP helped design local equipment to meet the specifications at a fraction of the cost of imported equipment, thereby helping the enterprises to minimize their conversion costs.

Innovative projects are also getting off the ground in eight developing countries to help small and medium-sized industries phase out their use of ODS. Without this assistance, many of these industries would risk bankruptcy during the conversion to ozone-friendly products. Businesses participating in the project are expected to emerge not only environmentally safe but more competitive as well.

According to some experts, the ozone hole above Antarctica could close by the year 2050 if all goals set by the Montreal Protocol are met. ■

— Frank Pinto is director of UNDP's Montreal Protocol Programme.

hydrogen fuel cells, which emit no greenhouse gases.

Other examples of renewable energy projects that are moving forward can be found in China, which is the world's second-largest carbon-dioxide producer. A programme there is identifying ways to make renewable energy options commercially competitive.

In Kiribati, where many islands are separated by vast stretches of the Pacific Ocean, UNDP, in partnership with Japan, assisted in the installation of photovoltaic systems for households in some communities.

UNDP Administrator James Gustave Speth, speaking in Buenos Aires, said "The poor have a right to development; it is a fundamental human right to be free of poverty. We need not always work through conventional approaches that replicate unsustainable energy patterns. As the world community agreed in Rio at the Earth Summit in 1992, climate-change objectives and poverty eradication can and must be reconciled." ■

— Daniel Shepard is a freelance journalist who reports on the environment, human rights, development, and the United Nations.

Harnessing solar power.

POVERTY, THE ENVIRONMENT AND NATURAL DISASTERS

News of unprecedented damage from natural disasters is carried on the front pages of more and more newspapers everyday.

Last year, floods submerged two-thirds of Bangladesh, leaving 21 million people homeless. In China, the worst flooding in 44 years affected 223 million people—one-fifth of the country's population. Hurricane Mitch washed away entire villages in Honduras, Nicaragua and other Central American countries. Almost 10,000 people died, homes and vital infrastructure were destroyed, and by some estimates, several decades of development were swept away.

In January of this year, an earthquake in Colombia claimed at least 1,000 lives and left an estimated 200,000 homeless.

Whether disasters are occurring more frequently is still unclear. But there is no question that they are more damaging than ever before, particularly in developing countries. "Natural disasters are definitely taking a higher toll in countries where there is widespread poverty," says John Rogge, head of the United Nations Development Programme's disaster management office in Geneva. Rogge also observes that "much of the suffering is avoidable."

He explains that the world's poor typically have limited access to land and that many build their homes in "high-risk" areas, such as low-lying plains, river banks and on steep slopes. When a flood strikes, these are the first places to be swept away. And because population density is increasing in these vulnerable areas, the number of victims is also rising.

Too poor to purchase gas or other commercial forms of energy for cooking and heating, vulnerable communities cut trees for firewood, leaving the bare terrain more prone to mudslides of the kind that buried villages during Hurricane Mitch.

Mitch revealed the pressing need for environmentally responsible and sustainable patterns of development.

The direct and indirect cost of damage caused by the hurricane is estimated at US$5.3 billion.

When similar events strike more developed countries, the damage to homes and infrastructure may be high, but the death toll is comparatively small. When Hurricane Andrew wreaked havoc on the southeastern part of the United States in 1992, 65 people died. In Central America, Hurricane Mitch claimed at least 9,000 lives, and thousands are still missing.

After visiting Central America to view the damage caused by the hurricane, UNDP Administrator James Gustave Speth stressed the need for urgent action, but warned that old standards should not be used during reconstruction. "This means that infrastructure should be built to better withstand natural disasters. It means reconstruction of homes in less precarious areas and with more resilience. It means building new national institutional capacities to prevent and to mitigate events of this type."

John Rogge emphasizes the need to strengthen government structures at national, regional and local levels so that they are better prepared to deal with disasters, and to address poverty, the root cause of people's vulnerability. "There is no quick fix to this problem," he says. ■

— Trygve Olfarnes

A NEW WAVELENGTH FOR THE POOR

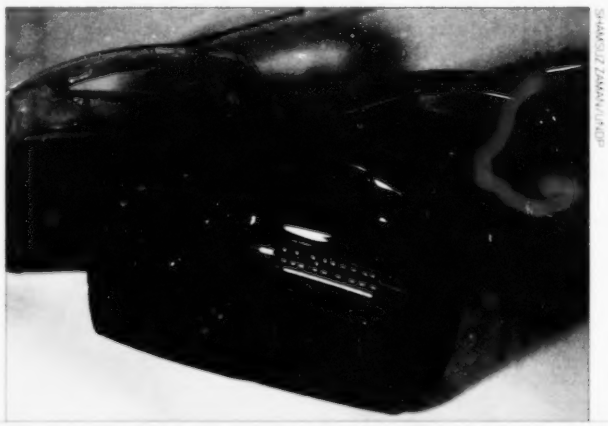
For millions of families in developing countries, access to information is a luxury. In Africa for example, there are fewer than 50 radios per 1,000 people. For families in rural areas without electricity, a radio that requires batteries is an extravagance few can afford.

British inventor, Trevor Baylis came up with the idea of a wind-up radio when he was watching a television documentary about the difficulties of educating people on HIV/AIDS in remote parts of Africa.

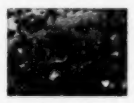
South Africa perfected key components of the radio to make it more marketable. The Freeplay Radio needs no electricity or batteries. All it requires is a little "elbow grease" to manually crank up its handle, and the radio can play for an hour at a time. With support from the Liberty Life Foundation, villages without electricity or textbooks started using the radio as a simple, cost-effective way to bring special programming on health, environment, news and education to thousands of adults and children.

The radios are manufactured by ex-prisoners, who gained their skills through South Africa's National Institute for Crime Prevention and the Re-integration of Offenders, which is supported by the United Nations Development Programme. ■

— Ashali Varma



MATTERS OF FACT

Pollution. Of the 2.7 million deaths related to air pollution each year, 2.2 million are caused by **fumes** from wood and other fuels used indoors. › In Mexico City, airborne particulate kills about 6,400 residents a year. Air pollution caused more than 175,000 **premature deaths** in China in 1995 and nearly 2 million cases of chronic bronchitis. More than 70 % of the deaths from outdoor air pollution are in developing countries. The total **health** costs of urban air pollution in developing countries was estimated to be nearly US$100 billion in 1995, with chronic bronchitis accounting for $40 billion. Germany loses an estimated $4.7 billion in **agricultural production** every year as a result of air pollution. Poland loses $2.7 billion, Italy $1.8 billion and Sweden $1.5 billion. › In Sweden 20,000 of the country's 90,000 lakes are at least somewhat **acidified** due to air pollution.  In Canada, 48,000 lakes are acidified. › Asia's rivers contain 20 times as much lead on average and carry 50 times as much bacteria from human excrement as those in industrial countries. Jakarta Bay, where some 30,000 small industries discharge untreated waste, has a **high accumulation** of toxic heavy metals. › Every year water pollution causes nearly 2 billion cases of **diarrhoea** in the developing world, and diarrhoeal diseases kill some 5 million people annually. › As many as 50 million Americans may be drinking water polluted by **pesticides.**

Information is drawn from the *Human Development Report 1998*, commissioned by the United Nations Development Programme. The report is published in English by Oxford University Press (paperback ISBN 0-19-512459-6; hardbound 0-19-512458-8), and in nine other language editions by a variety of publishers.